Plastic stabilising grid

WARCO recommends the grid as a base course for safety and terrace tiles, ball game playing areas and patios. What is crucial here, is the opportunity of saving, in many cases, on complex structures of a conventional subfloor consisting of several layers of compacted grit, gravel and sand.

Building an innovative, unbound subfloor with a plastic stabilising grid

The key element in the innovative construction is the use of the plastic stabilising grid (grass grid) for soil stabilisation. This product should be installed under the WARCO tiles and filled with gravel mix. It takes on partially the function of the base course throughout absorption of the dynamic and static forces that have impact on the surface.

The plastic stabilising grid by WARCO has a load capacity of **160 t/m**. Therefore, the thickness of the base course and frost-protective layer (installed if necessary) can be significantly reduced in comparison to the conventional construction. This saves costs and improves the stability of the superstructure.

Building an innovative subfloor in six easy steps

1. The first step
   Analogically to the traditional construction, firstly, it is necessary to remove (dig out) the existing soil, to prepare the newly constructed, enhanced innovative superstructure — frost-protective layer (if required) + reduced base layer + plastic stabilising grid (4 cm) + WARCO tiles. The strength of the superstructure depends on the foreseen overload of the tiles and the type of the existing soil.

   Frost-protective layer (installed if necessary)
Plastic stabilising grid as the key element

The plastic grid filled with thick sand, grit, or gravel makes the central element of the innovative subfloor for elastic WARCO tiles. It stabilises the floor and evenly shares dynamic and static impact exerted on the surface.

2. The second step

The next step would be the preparation of a sub-base, namely, the adjusted surface that should be planned and (if necessary) compacted with a vibrating plate or a roller to ensure its optimal stability. For this task, the soil should be neither too wet nor frozen.
At the installation of the sub-base, we must take into account any potential inclination of the subsequent layer (made of safety tiles, terrace tiles, interlocking pavers). The sub-base should be parallel to the top layer, according to the same gradient. The level of tolerance under the 4 m levelling board is ± 2 cm.

Preparing the surface for the installation of WARCO tiles

An important step in preparing the appropriate subfloor for WARCO rubber tiles is to even and compact the existing soil. In this way, an innovative unbound base layer is going to be prepared for the installation.

In case of largely and only slightly water-permeable sub-base, water will seep through the upper surface of the superstructure and it will go to the ground water in the subsurface. In a poorly water-permeable or impermeable foundation or base respectively, there is (if appropriate) created a sub-base drainage in order to avoid damage caused by the backwater.

3. The third step

It depends on the local conditions whether a frost-protective layer should be installed. In most cases, as far as garden
or landscape architecture is concerned, we may resign from such a solution. The same is true for the regions with moderate ‘minus’ temperatures in winter. The final decision about its application is based on the individual situation of the construction site and the intended use of the area.

The frost-protective layer is applied in the thickness ranging from 10 up to 30 cm; moreover, it should be exactly parallel in height and a manner of inclination; it also ought to be well compacted.

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**Frostproof layer under WARCO tiles**

It depends on the local conditions if we need a frost proof layer as a part of an innovative unbound subfloor. If we opt for it though, it should be well compacted, and have the thickness of about 10-30 cm.

Concerning the choice of material destined for the frost protection layer, it is essential to make sure that it is permanently water-permeable. Therefore, a recycled material which decays over time and forms a water-impermeable layer is unsuitable. Instead, we may use 0/32-mm-gravel or grit.
4. The fourth step
The function of the base-course is partially taken up by the stabilising grid. Therefore, omitting of the installation of the proper base course which sometimes occurs, may drastically reduce the stabilisation of the surface. The assembled base-course should be permanently water permeable, perfectly flat, carefully compacted and created with an incline on its top layer. The recommended material for the subfloor are mineral mixtures with the values 0/32, 0/45, 0/56 or gravel-sand mix.

Preparing the sandy layer
It depends on local conditions, how much sand should be dug out to prepare an appropriate and stable subfloor. Only if the surface is well evened out, we can place a layer of compacted grit, gravel or thick coarse sand that would serve us a part of stable subfloor under WARCO rubber tiles.

When installing the subfloor it is recommended to place iron pipes as runners in the ground to ensure an even layer of grit or gravel. In this way, using simple means and by meticulous work, a smooth and level subfloor can be installed.
5. The fifth step
Depending on the choice of the floor structure, WARCO plastic stabilising grid should be placed on the base course. Small spikes and a locking mechanism integrated in the grid stabilise the product in the ground, also when it is not perfectly even. In the 4-cm-thick stabilising grid, gravel mix (fraction of 1/3) is very carefully and precisely assembled on the surface of the grid.

6. The sixth step
WARCO tiles can be laid only on the properly installed bedding. The subfloor should be simply laid, not additionally bound.
with the base layer. During the montage, please refer to the **installation instructions** for the respective product.

Laying elastic tiles or pavers

Elastic tiles and pavers from WARCO can be simply laid directly on the prepared innovative subfloor. It is not necessary to fix it to the existing surface, so the installation is carried out quickly and easily.

If the area should be bordered with palisades, elastic curbs, or other types of edging, the installation of those bordering elements should be made parallel to the structure of the upper layers of the subfloor. In case of i.e. elastic curbs, a special built-in concrete support must be provided.

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